

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/GB2005/050043

International filing date (day/month/year)  
24.03.2005

Priority date (day/month/year)  
30.03.2004

International Patent Classification (IPC) or both national classification and IPC  
C23F11/16, C11D3/00, C11D3/34, C11D11/00, C09G1/02

Applicant  
MIDDLESEX SILVER CO. LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material:  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing:  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. II Priority**

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1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

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**Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	4-19,21-33,36-38,40,41,44-47
	No: Claims	1-3,20,34,35,39,42,43
Inventive step (IS)	Yes: Claims	
	No: Claims	1-47
Industrial applicability (IA)	Yes: Claims	1-47
	No: Claims	

2. Citations and explanations

**see separate sheet**

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**Box No. VI Certain documents cited**

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1. Certain published documents (Rules 43*bis*.1 and 70.10)

and /or

2. Non-written disclosures (Rules 43*bis*.1 and 70.9)

**see form 210**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

PCT/GB2005/050043

**Re Item V.**

- 1) Reference is made to the following documents:

D1 : EP 0 492 487 A (DODUCO GMBH + CO DR. EUGEN DUERRWAECHTER) 1  
July 1992 (1992-07-01)  
D2 : US 3 503 883 A (IAN ALASTAIR MONCRIEFF FORD ET AL) 31 March 1970  
(1970-03-31)  
D3 : GB 1 070 383 A (J. GODDARD & SONS LIMITED) 1 June 1967 (1967-06-01)  
D4 : GB 1 217 414 A (J. GODDARD & SONS LIMITED) 31 December 1970 (1970-  
12-31)  
D5 : US 3 248 235 A (PRYOR DONALD M ET AL) 26 April 1966 (1966-04-26)

- 2) Document D1 (see column 3, line 18 -column 5, line 40, claims and examples) discloses an aqueous tarnish-inhibiting composition for silver which comprises an alkyl mercaptan (eg a C16 thiol) inhibitor and surface active components. The surface active components may comprise a mixture of a non-ionic and anionic surfactants. The pH of the composition is 1-10.

Document D1 is novelty destroying for the subject-matter of at least claims 1-3,20,42 and 43 (Article 33(2) PCT).

- 2.1) Document D2 (see column 2, line 67 to column 3, line 52, claims and examples 2 and 7) discloses aqueous tarnish inhibiting compositions containing dialkyl disulfides. The compositions may contain detergents and be used as polishing paste or non-ionic emulsifiers and be used as dips.

Document D2 is novelty destroying for the subject-matter of claims 1,3,42 and 43.

- 2.2) Document D3 (see claims and example 7) discloses protective polishing and cleaning compositions for silver. The compositions may contain alkyl thioglycollates and non-ionic surfactants.

The subject-matter of claims 1,3,42 and 43 thus lack novelty with respect to the subject-matter of document D3.

- 2.3) Document D4 (see page 1, line 85 to page 2, line 49, claims and examples) discloses a polishing and tarnish removing aqueous dip for silver containing an acid, thiourea, a non-ionic surfactant and an alkyl thiol.

Document D4 is thus novelty destroying for claims, 1,3,29,42 and 43.

- 2.4) Document D5 (see column 3, lines 26-33, claims and examples) discloses an anti-tarnish composition for copper-containing surfaces. The compositions typically contained alkyl mercaptans, sodium chloride, a non-ionic surfactant, citric acid and optionally an abrasive.

Document D5 is thus novelty destroying for the subject-matter of claims 1,3,34,35, 42 and 43.

- 3) Claims 4-19 and 21-33 define the use of particular surfactants or combinations of surfactants not disclosed in the prior art. It is clear from the prior art that a wide variety of surfactants can be used in compositions with tarnish inhibiting components. Furthermore there is no evidence that the selection of particular surfactants leads to particular effects. Thus the subject-matter of these claims lacks an inventive step (Article 33(3) PCT).

- 3.1) The subject-matter of claims 36-38 is novel because document D5 does not disclose the use of 0.1 to 3 wt% of sodium chloride. The document does however state that 0.01 to 25 wt. % of this component can be used. There is no evidence that the selection of the concentrations now claimed leads to particular effects or advantages and thus the subject-matter of these claims is also not inventive. The subject-matter of claim 44 appears to be trivial and not inventive with respect to this document. Metal treatment compositions are routinely prepared by mixing the components to form a concentrate and later diluting with water for use.

- 3.2) The subject-matter of claims 40-41 is clearly obvious in view of documents D2 to D5.

- 3.3) The subject-matter of claims 45-47 is obvious in view of document D1. This document discloses that the pH is suitably 1-10. No effects or advantages appear to

be obtained by the use of a pH of 6-7. The use of citric acid to adjust the pH in this range is routine and obvious.

**Re Item VII**

**Certain defects in the international application**

- 1) Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1-D5 is not mentioned in the description, nor are these documents identified therein.

**Re Item VIII**

**Certain observations on the international application**

- 1) The relative term "relatively hydrophobic" used in claims 3,12-14 and has no well-recognised meaning and leaves the reader in doubt as to the nature of the surfactants to which it refers, thereby rendering the definition of the subject-matter of said claims unclear, Article 6 PCT.